

## Troubleshooting Egg Production Problems

Common egg production problems can be divided into three categories: low peak production, normal peaks but production drops shortly afterwards and mid-lay production drops (40 to 50 weeks of age). Many factors have a negative impact on egg production. A partial listing of these include: 1) poor pullet quality, 2) inappropriate feeding program, 3) poor feed quality, 4) disease, 5) inadequate water supply or poor water quality, 6) inadequate light stimulation, 7) high bird density, 8) inadequate ventilation, 9) abrupt weather changes, 10) equipment malfunctions, 11) poor farm management. The first rule in troubleshooting egg production problems is to keep it simple. Do not take anything for granted. Check all the basic items first.

To limit the discussion we will assume we are housing a healthy, uniform flock of pullets with adequate weight and that basic management is acceptable.

### Low peak egg production:

Low peak production usually starts when the flock reaches 60 to 65 percent production, i.e. production loses momentum. Peaks are 5 to 7 percent less than expected.

If we have a good pullet and are seeing low peak production, are we collecting all of the eggs produced? Flocks with a high percentage of floor/slat eggs may be peaking higher than we think. If peak production is low and floor/slat eggs are normal, feed and feeding programs are among the first items to check.

Is peak feed given late? Hens should be on peak feed at 50 to 60 percent for Hubbard birds and 65 to 70 percent for others. If peak feed is being given on time, is the amount adequate? Suggested energy intakes at peak are:

Table 1: Suggested Caloric Intake per Hen per Day

	Trough Feeder	Pan Feeder
Summer (pad cooling)	435	425
Spring/Fall	450	440
Winter	460	450

Are males stealing feed from the hens? With dubbed males, and improper or damaged grills feed intake may be one to two pounds less than calculated due to male stealing. Hens need to be compensated under those conditions. To verify this you need to be in the house to watch the birds eat.

Are all hens getting enough feed? If feed clean-up time is less than one and one-half hours, some hens will not consume enough feed. Fast clean-up time can result from daily feed being given too early, a high energy feed (low feed volume), pellet rather than mash feed, and type of feeder.

Is feed distribution fast enough to allow hens access to feed? Feed should be distributed throughout the house within five minutes or less.

Is feed distribution uniform (continuous)? If the feed controller is programmed with too much “down time” between runs, feed intake will not be uniform.

Is there adequate feeder space to allow all hens to eat? Inadequate feeder space will not allow all hens to eat. Chain feeders should allow 5.5 to 5.9 inches per bird (14 to 15 cm per bird) and pan feeders should allow 13 to 14 birds per pan. Increasing the number hens per house will reduce feeder space per hen.

Does the feed contain the nutrients and energy calculated? If ingredient quality is less than projected, the birds are not consuming what we calculated.

Was the wrong feed delivered? Feeding pullet feed rather than breeder feed near peak production normally results in lower energy intake. Is the feed too fine or dusty? Hens prefer a coarse particle size. Switching from pellets to a fine mash reduces feed intake.

Are the birds consuming enough water? Water intake may be inadequate if the nipple drinkers are raised too high or if the nipple does not deliver sufficient volume of water due either to design or malfunction. Was the water supply interrupted for a prolonged period?

Was light intensity and duration adequate? Did the hours of light stimulation bracket natural daylight? For hens housed in open sided houses from late May to early July artificial light should extend past twilight. Light intensity should be 3 to 4 footcandles at bird level. Low intensity may be due to lights not being turned on during cloudy days, dirty or missing bulbs, fluorescent bulbs in the winter time and/or voltage drop with high-pressure sodium lights.

### Normal peak production but production drops shortly afterward:

A reasonable goal is 8 to 10 weeks over 80 percent egg production. Is energy intake adequate? The most common cause is starting the feed reduction program too soon and/or too aggressively. For Hubbard hens, one should not ordinarily reduce feed while egg production is above 80 percent. This guide may not apply to other breeds. If the weather abruptly turned colder, energy intake would be inadequate unless feed was increased.

Was energy intake adequate? If peak feed intake was marginal, the hen does not have adequate body “reserves” to maintain production. Feed, water and light criteria discussed for low peak production also apply to drop shortly after peak.

### Mid-lay production drops:

Mid-lay production drops are those occurring or starting between 40 and 50 weeks of age.

Was post-peak feed reduction too severe for the stage of production and the season of the year? Feed reduction programs need to be adjusted based on the season of the year that the hen will reach 52 weeks. Allow an additional 10 calories per hen for spring and fall versus summer and 20 calories per hen for winter versus summer.

Does the feed contain the energy and nutrients calculated? Under formulated feed combined with an aggressive feed reduction program is a disaster. There will be an obvious drop in egg production, hens will consume most of the litter due to hunger, and an excessive number of hens will be bare-backed and molted. Flock fertility will also decline as hens avoid the males.

Is the grill too restrictive? An opening of 41 mm (1-5/8 inches) on the female trough will be too restrictive for many hens by 40 to 45 weeks of age. A minimum of 43 mm (1-11/16 inches) grill opening is recommended. Water and light criteria discussed previously also apply to mid-lay production drops.

### Summary:

When troubleshooting low peak egg production or drops in egg production, check the basic management factors first. Although no universal fixes will work in all situations, and every grower needs to investigate the individual circumstances, it pays to ask “Are we providing adequate light, feed and water?” For most production drops, the answer to one or more of the previous questions is likely to be “NO”.

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